



# Sequence Listing

<110> HENRY CHIU

HILARY CLARK

KATHRYN DENNIS

SHERMAN FONG

JILL SCHOENFELD

WILLIAM WOOD

THOMAS WU

<120> COMPOSITIONS AND METHODS FOR THE TREATMENT OF IMMUNE  
RELATED DISEASES

<130> P1973R1-US

<140> US 10/614,853

<141> 2003-07-08

<150> US 60/394,485

<151> 2002-07-08

<160> 28

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<211> 1816

<212> DNA

<213> Homo sapien

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<212> PRT

<213> Homo sapien

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Ser Pro Glu Trp Met	Leu Gln His Asp	Leu Ile Pro Gly Asp	Leu		
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Arg Asp Leu Arg Val	Glu Pro Val Thr	Thr Ser Val Ala Thr	Gly		
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Asp Tyr Ser Ile Leu	Met Asn Val Ser	Trp Val Leu Arg Ala	Asp		
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Ala Ser Ile Arg Leu	Leu Lys Ala Thr	Lys Ile Cys Val Thr	Gly		
	80		85		90
Lys Ser Asn Phe Gln	Ser Tyr Ser Cys	Val Arg Cys Asn Tyr	Thr		
	95		100		105
Glu Ala Phe Gln Thr	Gln Thr Arg Pro	Ser Gly Gly Lys Trp	Thr		
	110		115		120
Phe Ser Tyr Ile Gly	Phe Pro Val Glu	Leu Asn Thr Val Tyr	Phe		
	125		130		135
Ile Gly Ala His Asn	Ile Pro Asn Ala	Asn Met Asn Glu Asp	Gly		
	140		145		150
Pro Ser Met Ser Val	Asn Phe Thr Ser	Pro Gly Cys Leu Asp	His		
	155		160		165
Ile Met Lys Tyr Lys	Lys Lys Cys Val	Lys Ala Gly Ser Leu	Trp		
	170		175		180
Asp Pro Asn Ile Thr	Ala Cys Lys Lys	Asn Glu Glu Thr Val	Glu		
	185		190		195
Val Asn Phe Thr Thr	Thr Pro Leu Gly	Asn Arg Tyr Met Ala	Leu		
	200		205		210
Ile Gln His Ser Thr	Ile Ile Gly Phe	Ser Gln Val Phe Glu	Pro		
	215		220		225
His Gln Lys Lys Gln	Thr Arg Ala Ser	Val Val Ile Pro Val	Thr		
	230		235		240
Gly Asp Ser Glu Gly	Ala Thr Val Gln	Leu Thr Pro Tyr Phe	Pro		
	245		250		255
Thr Cys Gly Ser Asp	Cys Ile Arg His	Lys Gly Thr Val Val	Leu		
	260		265		270
Cys Pro Gln Thr Gly	Val Pro Phe Pro	Leu Asp Asn Asn Lys	Ser		
	275		280		285
Lys Pro Gly Gly Trp	Leu Pro Leu Leu	Leu Leu Ser Leu Leu	Val		
	290		295		300
Ala Thr Trp Val Leu	Val Ala Gly Ile	Tyr Leu Met Trp Arg	His		
	305		310		315

Glu	Arg	Ile	Lys	Lys	Thr	Ser	Phe	Ser	Thr	Thr	Thr	Leu	Leu	Pro	320	325	330
Pro	Ile	Lys	Val	Leu	Val	Val	Tyr	Pro	Ser	Glu	Ile	Cys	Phe	His	335	340	345
His	Thr	Ile	Cys	Tyr	Phe	Thr	Glu	Phe	Leu	Gln	Asn	His	Cys	Arg	350	355	360
Ser	Glu	Val	Ile	Leu	Glu	Lys	Trp	Gln	Lys	Lys	Lys	Ile	Ala	Glu	365	370	375
Met	Gly	Pro	Val	Gln	Trp	Leu	Ala	Thr	Gln	Lys	Lys	Ala	Ala	Asp	380	385	390
Lys	Val	Val	Phe	Leu	Leu	Ser	Asn	Asp	Val	Asn	Ser	Val	Cys	Asp	395	400	405
Gly	Thr	Cys	Gly	Lys	Ser	Glu	Gly	Ser	Pro	Ser	Glu	Asn	Ser	Gln	410	415	420
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<210> 4

<211> 567

<212> PRT

<213> Homo sapien

<400> 4

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				20					25					30
Asp	Pro	Phe	Glu	Lys	Cys	Met	Gln	Asp	Pro	Asp	Tyr	Glu	Gln	Leu
				35					40					45

Leu	Lys	Val	Val	Thr	Trp	Gly	Leu	Asn	Arg	Thr	Leu	Lys	Pro	Gln		50	55	60
Arg	Val	Ile	Val	Val	Gly	Ala	Gly	Val	Ala	Gly	Leu	Val	Ala	Ala		65	70	75
Lys	Val	Leu	Ser	Asp	Ala	Gly	His	Lys	Val	Thr	Ile	Leu	Glu	Ala		80	85	90
Asp	Asn	Arg	Ile	Gly	Gly	Arg	Ile	Phe	Thr	Tyr	Arg	Asp	Gln	Asn		95	100	105
Thr	Gly	Trp	Ile	Gly	Glu	Leu	Gly	Ala	Met	Arg	Met	Pro	Ser	Ser		110	115	120
His	Arg	Ile	Leu	His	Lys	Leu	Cys	Gln	Gly	Leu	Gly	Leu	Asn	Leu		125	130	135
Thr	Lys	Phe	Thr	Gln	Tyr	Asp	Lys	Asn	Thr	Trp	Thr	Glu	Val	His		140	145	150
Glu	Val	Lys	Leu	Arg	Asn	Tyr	Val	Val	Glu	Lys	Val	Pro	Glu	Lys		155	160	165
Leu	Gly	Tyr	Ala	Leu	Arg	Pro	Gln	Glu	Lys	Gly	His	Ser	Pro	Glu		170	175	180
Asp	Ile	Tyr	Gln	Met	Ala	Leu	Asn	Gln	Ala	Leu	Lys	Asp	Leu	Lys		185	190	195
Ala	Leu	Gly	Cys	Arg	Lys	Ala	Met	Lys	Lys	Phe	Glu	Arg	His	Thr		200	205	210
Leu	Leu	Glu	Tyr	Leu	Leu	Gly	Glu	Gly	Asn	Leu	Ser	Arg	Pro	Ala		215	220	225
Val	Gln	Leu	Leu	Gly	Asp	Val	Met	Ser	Glu	Asp	Gly	Phe	Phe	Tyr		230	235	240
Leu	Ser	Phe	Ala	Glu	Ala	Leu	Arg	Ala	His	Ser	Cys	Leu	Ser	Asp		245	250	255
Arg	Leu	Gln	Tyr	Ser	Arg	Ile	Val	Gly	Gly	Trp	Asp	Leu	Leu	Pro		260	265	270
Arg	Ala	Leu	Leu	Ser	Ser	Leu	Ser	Gly	Leu	Val	Leu	Leu	Asn	Ala		275	280	285
Pro	Val	Val	Ala	Met	Thr	Gln	Gly	Pro	His	Asp	Val	His	Val	Gln		290	295	300
Ile	Glu	Thr	Ser	Pro	Pro	Ala	Arg	Asn	Leu	Lys	Val	Leu	Lys	Ala		305	310	315
Asp	Val	Val	Leu	Leu	Thr	Ala	Ser	Gly	Pro	Ala	Val	Lys	Arg	Ile		320	325	330
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Glu	His	Thr	Ala	Tyr	Pro	His	Gly	Trp	Val	Glu	Thr	Ala	Val	Lys
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Ala	Ser	Asp	Thr	Ala	Ser	Pro	Glu	Gly	His	Ala	Ser	Asp	Met	Glu
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Leu	Ala	Lys	Glu	Glu	Gly	Ser	His	Pro	Pro	Val	Gln	Gly	Gln	Leu
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Ser	Leu	Gln	Asn	Thr	Thr	His	Thr	Arg	Thr	Ser	His			
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<212> DNA

<213> Homo sapien

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<211> 747

<212> PRT

<213> Homo sapien

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Pro	Arg	Ser	Ala	Leu	Tyr	Ser	Pro	Ser	Asp	Pro	Leu	Thr	Leu	Leu	35	40	45	
Gln	Ala	Asp	Thr	Val	Arg	Gly	Ala	Val	Leu	Gly	Ser	Arg	Ser	Ala	50	55	60	
Trp	Ala	Val	Glu	Phe	Phe	Ala	Ser	Trp	Cys	Gly	His	Cys	Ile	Ala	65	70	75	
Phe	Ala	Pro	Thr	Trp	Lys	Ala	Leu	Ala	Glu	Asp	Val	Lys	Ala	Trp	80	85	90	
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Val	Arg	Phe	Phe	Lys	Ala	Phe	Thr	Lys	Asn	Gly	Ser	Gly	Ala	Val	125	130	135	
Phe	Pro	Val	Ala	Gly	Ala	Asp	Val	Gln	Thr	Leu	Arg	Glu	Arg	Leu	140	145	150	
Ile	Asp	Ala	Leu	Glu	Ser	His	His	Asp	Thr	Trp	Pro	Pro	Ala	Cys	155	160	165	
Pro	Pro	Leu	Glu	Pro	Ala	Lys	Leu	Glu	Glu	Ile	Asp	Gly	Phe	Phe	170	175	180	
Ala	Arg	Asn	Asn	Glu	Glu	Tyr	Leu	Ala	Leu	Ile	Phe	Glu	Lys	Gly	185	190	195	
Gly	Ser	Tyr	Leu	Gly	Arg	Glu	Val	Ala	Leu	Asp	Leu	Ser	Gln	His				

200										205					210				
Lys	Gly	Val	Ala	Val	Arg	Arg	Val	Leu	Asn	Thr	Glu	Ala	Asn	Val					
				215					220					225					
Val	Arg	Lys	Phe	Gly	Val	Thr	Asp	Phe	Pro	Ser	Cys	Tyr	Leu	Leu					
				230					235					240					
Phe	Arg	Asn	Gly	Ser	Val	Ser	Arg	Val	Pro	Val	Leu	Met	Glu	Ser					
				245					250					255					
Arg	Ser	Phe	Tyr	Thr	Ala	Tyr	Leu	Gln	Arg	Leu	Ser	Gly	Leu	Thr					
				260					265					270					
Arg	Glu	Ala	Ala	Gln	Thr	Thr	Val	Ala	Pro	Thr	Thr	Ala	Asn	Lys					
				275					280					285					
Ile	Ala	Pro	Thr	Val	Trp	Lys	Leu	Ala	Asp	Arg	Ser	Lys	Ile	Tyr					
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Met	Ala	Asp	Leu	Glu	Ser	Ala	Leu	His	Tyr	Ile	Leu	Arg	Ile	Glu					
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Val	Gly	Arg	Phe	Pro	Val	Leu	Glu	Gly	Gln	Arg	Leu	Val	Ala	Leu					
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Lys	Lys	Phe	Val	Ala	Val	Leu	Ala	Lys	Tyr	Phe	Pro	Gly	Arg	Pro					
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Leu	Val	Gln	Asn	Phe	Leu	His	Ser	Val	Asn	Glu	Trp	Leu	Lys	Arg					
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Gln	Lys	Arg	Asn	Lys	Ile	Pro	Tyr	Ser	Phe	Phe	Lys	Thr	Ala	Leu					
				365					370					375					
Asp	Asp	Arg	Lys	Glu	Gly	Ala	Val	Leu	Ala	Lys	Lys	Val	Asn	Trp					
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Ile	Gly	Cys	Gln	Gly	Ser	Glu	Pro	His	Phe	Arg	Gly	Phe	Pro	Cys					
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Ser	Leu	Trp	Val	Leu	Phe	His	Phe	Leu	Thr	Val	Gln	Ala	Ala	Arg					
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Gln	Asn	Val	Asp	His	Ser	Gln	Glu	Ala	Ala	Lys	Ala	Lys	Glu	Val					
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Asp	Cys	Ala	Ser	His	Phe	Glu	Gln	Met	Ala	Ala	Ala	Ser	Met	His					
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Arg	Val	Gly	Ser	Pro	Asn	Ala	Ala	Val	Leu	Trp	Leu	Trp	Ser	Ser					
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His	Asn	Arg	Val	Asn	Ala	Arg	Leu	Ala	Gly	Ala	Pro	Ser	Glu	Asp					
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Pro	Gln	Phe	Pro	Lys	Val	Gln	Trp	Pro	Pro	Arg	Glu	Leu	Cys	Ser	500	505	510
Ala	Cys	His	Asn	Glu	Arg	Leu	Asp	Val	Pro	Val	Trp	Asp	Val	Glu	515	520	525
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Ile	Leu	Asp	Phe	Pro	Ala	Ala	Gly	Ser	Ala	Ala	Arg	Arg	Asp	Val	545	550	555
Gln	Asn	Val	Ala	Ala	Ala	Pro	Glu	Leu	Ala	Met	Gly	Ala	Leu	Glu	560	565	570
Leu	Glu	Ser	Arg	Asn	Ser	Thr	Leu	Asp	Pro	Gly	Lys	Pro	Glu	Met	575	580	585
Met	Lys	Ser	Pro	Thr	Asn	Thr	Thr	Pro	His	Val	Pro	Ala	Glu	Gly	590	595	600
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Ala	Pro	Gly	Gln	Glu	Pro	Pro	Glu	His	Met	Ala	Glu	Leu	Gln	Arg	620	625	630
Asn	Glu	Gln	Glu	Gln	Pro	Leu	Gly	Gln	Trp	His	Leu	Ser	Lys	Arg	635	640	645
Asp	Thr	Gly	Ala	Ala	Leu	Leu	Ala	Glu	Ser	Arg	Ala	Glu	Lys	Asn	650	655	660
Arg	Leu	Trp	Gly	Pro	Leu	Glu	Val	Arg	Arg	Val	Gly	Arg	Ser	Ser	665	670	675
Lys	Gln	Leu	Val	Asp	Ile	Pro	Glu	Gly	Gln	Leu	Glu	Ala	Arg	Ala	680	685	690
Gly	Arg	Gly	Arg	Gly	Gln	Trp	Leu	Gln	Val	Leu	Gly	Gly	Gly	Phe	695	700	705
Ser	Tyr	Leu	Asp	Ile	Ser	Leu	Cys	Val	Gly	Leu	Tyr	Ser	Leu	Ser	710	715	720
Phe	Met	Gly	Leu	Leu	Ala	Met	Tyr	Thr	Tyr	Phe	Gln	Ala	Lys	Ile	725	730	735
Arg	Ala	Leu	Lys	Gly	His	Ala	Gly	His	Pro	Ala	Ala				740	745	

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<211> 4565

<212> DNA

<213> Homo sapien

<400> 7

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<211> 802

<212> PRT

<213> Homo sapien

<400> 8

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Ala	Ser	Glu	Leu	Lys	Arg	Ala	Gly	Pro	Arg	Arg	Arg	Ala	Ser	Pro	35	40	45	
Glu	Gly	Cys	Arg	Ser	Gly	Gln	Ala	Ala	Ala	Ser	Gln	Ala	Gly	Gly	50	55	60	
Ala	Arg	Gly	Asp	Ala	Arg	Gly	Ala	Gln	Leu	Trp	Pro	Pro	Gly	Ser	65	70	75	
Asp	Pro	Asp	Gly	Gly	Pro	Arg	Asp	Arg	Asn	Phe	Leu	Phe	Val	Gly	80	85	90	
Val	Met	Thr	Ala	Gln	Lys	Tyr	Leu	Gln	Thr	Arg	Ala	Val	Ala	Ala	95	100	105	
Tyr	Arg	Thr	Trp	Ser	Lys	Thr	Ile	Pro	Gly	Lys	Val	Gln	Phe	Phe	110	115	120	
Ser	Ser	Glu	Gly	Ser	Asp	Thr	Ser	Val	Pro	Ile	Pro	Val	Val	Pro	125	130	135	
Leu	Arg	Gly	Val	Asp	Asp	Ser	Tyr	Pro	Pro	Gln	Lys	Lys	Ser	Phe	140	145	150	
Met	Met	Leu	Lys	Tyr	Met	His	Asp	His	Tyr	Leu	Asp	Lys	Tyr	Glu	155	160	165	
Trp	Phe	Met	Arg	Ala	Asp	Asp	Asp	Val	Tyr	Ile	Lys	Gly	Asp	Arg	170	175	180	
Leu	Glu	Asn	Phe	Leu	Arg	Ser	Leu	Asn	Ser	Ser	Glu	Pro	Leu	Phe	185	190	195	
Leu	Gly	Gln	Thr	Gly	Leu	Gly	Thr	Thr	Glu	Glu	Met	Gly	Lys	Leu	200	205	210	
Ala	Leu	Glu	Pro	Gly	Glu	Asn	Phe	Cys	Met	Gly	Gly	Pro	Gly	Val	215	220	225	



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Lys Cys Leu Arg	Glu Met Tyr Thr Thr	His Glu Asp Val Glu	Val
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Gly Arg Cys Val	Arg Arg Phe Ala Gly	Val Gln Cys Val Trp	Ser
	260	265	270
Tyr Glu Met Gln	Gln Leu Phe Tyr Glu	Asn Tyr Glu Gln Asn	Lys
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Lys Gly Tyr Ile	Arg Asp Leu His Asn	Ser Lys Ile His Gln	Ala
	290	295	300
Ile Thr Leu His	Pro Asn Lys Asn Pro	Pro Tyr Gln Tyr Arg	Leu
	305	310	315
His Ser Tyr Met	Leu Ser Arg Lys Ile	Ser Glu Leu Arg His	Arg
	320	325	330
Thr Ile Gln Leu	His Arg Glu Ile Val	Leu Met Ser Lys Tyr	Ser
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Asn Thr Glu Ile	His Lys Glu Asp Leu	Gln Leu Gly Ile Pro	Pro
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Ser Phe Met Arg	Phe Gln Pro Arg Gln	Arg Glu Glu Ile Leu	Glu
	365	370	375
Trp Glu Phe Leu	Thr Gly Lys Tyr Leu	Tyr Ser Ala Val Asp	Gly
	380	385	390
Gln Pro Pro Arg	Arg Gly Met Asp Ser	Ala Gln Arg Glu Ala	Leu
	395	400	405
Asp Asp Ile Val	Met Gln Val Met Glu	Met Ile Asn Ala Asn	Ala
	410	415	420
Lys Thr Arg Gly	Arg Ile Ile Asp Phe	Lys Glu Ile Gln Tyr	Gly
	425	430	435
Tyr Arg Arg Val	Asn Pro Met Tyr Gly	Ala Glu Tyr Ile Leu	Asp
	440	445	450
Leu Leu Leu Leu	Tyr Lys Lys His Lys	Gly Lys Lys Met Thr	Val
	455	460	465
Pro Val Arg Arg	His Ala Tyr Leu Gln	Gln Thr Phe Ser Lys	Ile
	470	475	480
Gln Phe Val Glu	His Glu Glu Leu Asp	Ala Gln Glu Leu Ala	Lys
	485	490	495
Arg Ile Asn Gln	Glu Ser Gly Ser Leu	Ser Phe Leu Ser Asn	Ser
	500	505	510
Leu Lys Lys Leu	Val Pro Phe Gln Leu	Pro Gly Ser Lys Ser	Glu

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His	Lys	Glu	Pro	Lys	Asp	Lys	Lys	Ile	Asn	Ile	Leu	Ile	Pro	Leu
				530					535					540
Ser	Gly	Arg	Phe	Asp	Met	Phe	Val	Arg	Phe	Met	Gly	Asn	Phe	Glu
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Lys	Thr	Cys	Leu	Ile	Pro	Asn	Gln	Asn	Val	Lys	Leu	Val	Val	Leu
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Leu	Phe	Asn	Ser	Asp	Ser	Asn	Pro	Asp	Lys	Ala	Lys	Gln	Val	Glu
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Val	Asp	Leu	Phe	Asn	Lys	Val	Val	Gln	Ala	Gly	Leu	Lys	Thr	Phe
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Arg	Ser	Gln	Glu	Val	Gly	Val	Val	His	Val	His	His	Pro	Val	Phe
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Cys	Asp	Pro	Asn	Leu	Asp	Pro	Lys	Gln	Tyr	Lys	Met	Cys	Leu	Gly
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Ser	Lys	Ala	Ser	Thr	Tyr	Gly	Ser	Thr	Gln	Gln	Leu	Ala	Glu	Met
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Trp	Leu	Glu	Lys	Asn	Asp	Pro	Ser	Tyr	Ser	Lys	Ser	Ser	Asn	Asn
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 ggcggattat gcagaagtca agttccaatg agggctctctt aggccttagg 2150  
 actgggactt cggctaggga ggaagg 2176

<210> 10  
 <211> 697  
 <212> PRT  
 <213> Homo sapien

<400> 10  
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 1 5 10 15  
 Ala Met Asp Gly Arg Phe Trp Ile Arg Val Gln Glu Ser Val Met  
 20 25 30  
 Val Pro Glu Gly Leu Cys Ile Ser Val Pro Cys Ser Phe Ser Tyr  
 35 40 45  
 Pro Arg Gln Asp Trp Thr Gly Ser Thr Pro Ala Tyr Gly Tyr Trp  
 50 55 60  
 Phe Lys Ala Val Thr Glu Thr Thr Lys Gly Ala Pro Val Ala Thr  
 65 70 75  
 Asn His Gln Ser Arg Glu Val Glu Met Ser Thr Arg Gly Arg Phe

80										85					90				
Gln	Leu	Thr	Gly	Asp	Pro	Ala	Lys	Gly	Asn	Cys	Ser	Leu	Val	Ile					
				95					100					105					
Arg	Asp	Ala	Gln	Met	Gln	Asp	Glu	Ser	Gln	Tyr	Phe	Phe	Arg	Val					
				110					115					120					
Glu	Arg	Gly	Ser	Tyr	Val	Arg	Tyr	Asn	Phe	Met	Asn	Asp	Gly	Phe					
				125					130					135					
Phe	Leu	Lys	Val	Thr	Ala	Leu	Thr	Gln	Lys	Pro	Asp	Val	Tyr	Ile					
				140					145					150					
Pro	Glu	Thr	Leu	Glu	Pro	Gly	Gln	Pro	Val	Thr	Val	Ile	Cys	Val					
				155					160					165					
Phe	Asn	Trp	Ala	Phe	Glu	Glu	Cys	Pro	Pro	Pro	Ser	Phe	Ser	Trp					
				170					175					180					
Thr	Gly	Ala	Ala	Leu	Ser	Ser	Gln	Gly	Thr	Lys	Pro	Thr	Thr	Ser					
				185					190					195					
His	Phe	Ser	Val	Leu	Ser	Phe	Thr	Pro	Arg	Pro	Gln	Asp	His	Asn					
				200					205					210					
Thr	Asp	Leu	Thr	Cys	His	Val	Asp	Phe	Ser	Arg	Lys	Gly	Val	Ser					
				215					220					225					
Val	Gln	Arg	Thr	Val	Arg	Leu	Arg	Val	Ala	Tyr	Ala	Pro	Arg	Asp					
				230					235					240					
Leu	Val	Ile	Ser	Ile	Ser	Arg	Asp	Asn	Thr	Pro	Ala	Leu	Glu	Pro					
				245					250					255					
Gln	Pro	Gln	Gly	Asn	Val	Pro	Tyr	Leu	Glu	Ala	Gln	Lys	Gly	Gln					
				260					265					270					
Phe	Leu	Arg	Leu	Leu	Cys	Ala	Ala	Asp	Ser	Gln	Pro	Pro	Ala	Thr					
				275					280					285					
Leu	Ser	Trp	Val	Leu	Gln	Asn	Arg	Val	Leu	Ser	Ser	Ser	His	Pro					
				290					295					300					
Trp	Gly	Pro	Arg	Pro	Leu	Gly	Leu	Glu	Leu	Pro	Gly	Val	Lys	Ala					
				305					310					315					
Gly	Asp	Ser	Gly	Arg	Tyr	Thr	Cys	Arg	Ala	Glu	Asn	Arg	Leu	Gly					
				320					325					330					
Ser	Gln	Gln	Arg	Ala	Leu	Asp	Leu	Ser	Val	Gln	Tyr	Pro	Pro	Glu					
				335					340					345					
Asn	Leu	Arg	Val	Met	Val	Ser	Gln	Ala	Asn	Arg	Thr	Val	Leu	Glu					
				350					355					360					
Asn	Leu	Gly	Asn	Gly	Thr	Ser	Leu	Pro	Val	Leu	Glu	Gly	Gln	Ser					
				365					370					375					

Leu	Cys	Leu	Val	Cys	Val	Thr	His	Ser	Ser	Pro	Pro	Ala	Arg	Leu	380	385	390
Ser	Trp	Thr	Gln	Arg	Gly	Gln	Val	Leu	Ser	Pro	Ser	Gln	Pro	Ser	395	400	405
Asp	Pro	Gly	Val	Leu	Glu	Leu	Pro	Arg	Val	Gln	Val	Glu	His	Glu	410	415	420
Gly	Glu	Phe	Thr	Cys	His	Ala	Arg	His	Pro	Leu	Gly	Ser	Gln	His	425	430	435
Val	Ser	Leu	Ser	Leu	Ser	Val	His	Tyr	Ser	Pro	Lys	Leu	Leu	Gly	440	445	450
Pro	Ser	Cys	Ser	Trp	Glu	Ala	Glu	Gly	Leu	His	Cys	Ser	Cys	Ser	455	460	465
Ser	Gln	Ala	Ser	Pro	Ala	Pro	Ser	Leu	Arg	Trp	Trp	Leu	Gly	Glu	470	475	480
Glu	Leu	Leu	Glu	Gly	Asn	Ser	Ser	Gln	Asp	Ser	Phe	Glu	Val	Thr	485	490	495
Pro	Ser	Ser	Ala	Gly	Pro	Trp	Ala	Asn	Ser	Ser	Leu	Ser	Leu	His	500	505	510
Gly	Gly	Leu	Ser	Ser	Gly	Leu	Arg	Leu	Arg	Cys	Glu	Ala	Trp	Asn	515	520	525
Val	His	Gly	Ala	Gln	Ser	Gly	Ser	Ile	Leu	Gln	Leu	Pro	Asp	Lys	530	535	540
Lys	Gly	Leu	Ile	Ser	Thr	Ala	Phe	Ser	Asn	Gly	Ala	Phe	Leu	Gly	545	550	555
Ile	Gly	Ile	Thr	Ala	Leu	Leu	Phe	Leu	Cys	Leu	Ala	Leu	Ile	Ile	560	565	570
Met	Lys	Ile	Leu	Pro	Lys	Arg	Arg	Thr	Gln	Thr	Glu	Thr	Pro	Arg	575	580	585
Pro	Arg	Phe	Ser	Arg	His	Ser	Thr	Ile	Leu	Asp	Tyr	Ile	Asn	Val	590	595	600
Val	Pro	Thr	Ala	Gly	Pro	Leu	Ala	Gln	Lys	Arg	Asn	Gln	Lys	Ala	605	610	615
Thr	Pro	Asn	Ser	Pro	Arg	Thr	Pro	Leu	Pro	Pro	Gly	Ala	Pro	Ser	620	625	630
Pro	Glu	Ser	Lys	Lys	Asn	Gln	Lys	Lys	Gln	Tyr	Gln	Leu	Pro	Ser	635	640	645
Phe	Pro	Glu	Pro	Lys	Ser	Ser	Thr	Gln	Ala	Pro	Glu	Ser	Gln	Glu	650	655	660
Ser	Gln	Glu	Glu	Leu	His	Tyr	Ala	Thr	Leu	Asn	Phe	Pro	Gly	Val			

	665		670		675									
Arg	Pro	Arg	Pro	Glu	Ala	Arg	Met	Pro	Lys	Gly	Thr	Gln	Ala	Asp
				680					685					690
Tyr	Ala	Glu	Val	Lys	Phe	Gln								
				695										

<210> 11  
 <211> 1724  
 <212> DNA  
 <213> Homo sapien

<400> 11  
 ccttcataacc ggcccttccc ctcggctttg cctggacagc tcctgcctcc 50  
 cgcagggccc acctgtgtcc cccagcgccg ctccaccag caggcctgag 100  
 cccctctctg ctgccagaca ccccctgctg ccactctcc tgctgctcgg 150  
 gttctgaggc acagcttgct acaccgaggc ggattctctt tctctttctc 200  
 ttctggccca cagccgcagc aatggcgctg agttcctctg ctggagttca 250  
 tcctgctagc tgggttcccg agctgccggt ctgagcctga ggcatggagc 300  
 ctctggaga ctgggggcct cctccctgga gatccacccc cagaaccgac 350  
 gtcttgaggc tgggtgctgta tctcaccttc ctgggagccc cctgctacgc 400  
 cccagctctg ccgtcctgca aggaggacga gtaccagtg ggctccgagt 450  
 gctgccccaa gtgcagtcca ggttatcgtg tgaaggaggc ctgcggggag 500  
 ctgacgggca cagtgtgtga accctgccct ccaggcacct acattgcca 550  
 cctcaatggc ctaagcaagt gtctgcagtg ccaaagtgtg gaccagcca 600  
 tgggcctgcg cgcgagccg aactgctcca ggacagagaa cgccgtgtgt 650  
 ggctgcagcc caggccactt ctgcatcgtc caggacgggg accactgcgc 700  
 cgcgtgccgc gcttacgcca cctccagccc gggccagagg gtgcagaagg 750  
 gaggcaccga gagtcaggac accctgtgtc agaactgcc cccggggacc 800  
 ttctctccca atgggaccct ggaggaatgt cagcaccaga ccaagtgcag 850  
 ctggctggtg acgaaggccg gagctgggac cagcagctcc cactgggtat 900  
 ggtggtttct ctcagggagc ctcgtcatcg tcattgtttg ctccacagtt 950  
 ggcctaata taagtgtgaa aagaagaaag ccaaggggtg atgtagtcaa 1000  
 ggtgatcgtc tccgtccagc ggaaaagaca ggaggcagaa ggtgaggcca 1050  
 cagtcattga ggccctgcag gccctccgg acgtcaccac ggtggccgtg 1100

gaggagacaa taccctcatt cacggggagg agcccaaacc actgaccac 1150  
agactctgca ccccgacgcc agagatacct ggagcgacgg ctgctgaaag 1200  
aggctgtcca cctggcgaaa ccaccggagc ccggaggctt gggggctcgc 1250  
ccctgggctg gcttccgtct cctccagtgg agggagaggt ggggccctg 1300  
ctggggtaga gctggggacg ccacgtgcca ttcccatggg ccagtgaggg 1350  
cctggggcct ctgttctgct gtggcctgag ctccccagag tcctgaggag 1400  
gagcgccagt tgcccctcgc tcacagacca cacaccagc cctcctgggc 1450  
cagcccagag ggcccttcag accccagctg tctgcgcgtc tgactcttgt 1500  
ggcctcagca ggacaggccc cgggcactgc ctcacagcca aggtgggact 1550  
gggttggtg cagtgtggtg tttagtggat accacatcgg aagtgatttt 1600  
ctaaattgga tttgaattcc ggtcctgtct tctatttgtc atgaaacagt 1650  
gtatttgggg agatgctgtg ggaggatgta aatatcttgt ttctcctcaa 1700  
aaaaaaaaa aaaaaaaaaa aaaa 1724

<210> 12  
<211> 283  
<212> PRT  
<213> Homo sapien

<400> 12  
Met Glu Pro Pro Gly Asp Trp Gly Pro Pro Pro Trp Arg Ser Thr  
1 5 10 15  
Pro Arg Thr Asp Val Leu Arg Leu Val Leu Tyr Leu Thr Phe Leu  
20 25 30  
Gly Ala Pro Cys Tyr Ala Pro Ala Leu Pro Ser Cys Lys Glu Asp  
35 40 45  
Glu Tyr Pro Val Gly Ser Glu Cys Cys Pro Lys Cys Ser Pro Gly  
50 55 60  
Tyr Arg Val Lys Glu Ala Cys Gly Glu Leu Thr Gly Thr Val Cys  
65 70 75  
Glu Pro Cys Pro Pro Gly Thr Tyr Ile Ala His Leu Asn Gly Leu  
80 85 90  
Ser Lys Cys Leu Gln Cys Gln Met Cys Asp Pro Ala Met Gly Leu  
95 100 105  
Arg Ala Ser Arg Asn Cys Ser Arg Thr Glu Asn Ala Val Cys Gly  
110 115 120  
Cys Ser Pro Gly His Phe Cys Ile Val Gln Asp Gly Asp His Cys  
125 130 135



Ala	Ala	Cys	Arg	Ala	Tyr	Ala	Thr	Ser	Ser	Pro	Gly	Gln	Arg	Val
				140					145					150
Gln	Lys	Gly	Gly	Thr	Glu	Ser	Gln	Asp	Thr	Leu	Cys	Gln	Asn	Cys
				155					160					165
Pro	Pro	Gly	Thr	Phe	Ser	Pro	Asn	Gly	Thr	Leu	Glu	Glu	Cys	Gln
				170					175					180
His	Gln	Thr	Lys	Cys	Ser	Trp	Leu	Val	Thr	Lys	Ala	Gly	Ala	Gly
				185					190					195
Thr	Ser	Ser	Ser	His	Trp	Val	Trp	Trp	Phe	Leu	Ser	Gly	Ser	Leu
				200					205					210
Val	Ile	Val	Ile	Val	Cys	Ser	Thr	Val	Gly	Leu	Ile	Ile	Cys	Val
				215					220					225
Lys	Arg	Arg	Lys	Pro	Arg	Gly	Asp	Val	Val	Lys	Val	Ile	Val	Ser
				230					235					240
Val	Gln	Arg	Lys	Arg	Gln	Glu	Ala	Glu	Gly	Glu	Ala	Thr	Val	Ile
				245					250					255
Glu	Ala	Leu	Gln	Ala	Pro	Pro	Asp	Val	Thr	Thr	Val	Ala	Val	Glu
				260					265					270
Glu	Thr	Ile	Pro	Ser	Phe	Thr	Gly	Arg	Ser	Pro	Asn	His		
				275					280					

<210> 13  
 <211> 1002  
 <212> DNA  
 <213> Homo sapien

<400> 13  
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 ttctgctgct tctcctagtg gcggcgtctg cgatgggtccg gagcgaggcc 100  
 tcggccaatc tgggcggcgt gccagcaaga gattaaagat gcagtacgcc 150  
 acggggccgc tgctcaagtt ccagatttgt gtttcctgag gttataggcg 200  
 ggtgtttgag gagtacatgc gggttattag ccagcggtag ccagacatcc 250  
 gcattgaagg agagaattac ctccctcaac caatatatag acacatagca 300  
 tctttcctgt cagtcttcaa actagtatta ataggcttaa taattgttgg 350  
 caaggatcct ttgcttttct ttggcatgca agctcctagc atctggcagt 400  
 ggggccaaga aaataagggt tatgcatgta tgatgggtttt cttcttgagc 450  
 aacatgattg agaaccagtg tatgtcaaca ggtgcatttg agataacttt 500  
 aaatgatgta cctgtgtggt ctaagctgga atctggtcac cttccatcca 550

tgcaacaact tgttcaaatt cttgacaatg aaatgaagct caatgtgcat 600  
 atggattcaa tcccacacca tcgatcatag caccacctat cagcactgaa 650  
 aactcttttg cattaagggga tcattgcaag agcagcgtga ctgacattat 700  
 gaaggcctgt actgaagaca gcaagctggt agtacagacc agatgctttc 750  
 ttggcaggct cgttgtacct cttggaaaac ctcaatgcaa gatagtgttt 800  
 cagtgtctggc atatttttga attctgcaca ttcattggagt gcaataatac 850  
 tgtatagctt tccccacac cccacaaaat caccagtta atgtgtgtgt 900  
 gtgtgttttt ttttaaggtaa acattactac ttgtaacttt ttttcttttag 950  
 tcatatttgg aaaaagtaga aaattggagt tacatttggga ttttttttcc 1000  
 aa 1002

<210> 14  
 <211> 163  
 <212> PRT  
 <213> Homo sapien

<220>  
 <221> Unsure  
 <222> 17  
 <223> Unknown amino acid

<400> 14  
 Met Gln Tyr Ala Thr Gly Pro Leu Leu Lys Phe Gln Ile Cys Val  
 1 5 10 15  
 Ser Xaa Gly Tyr Arg Arg Val Phe Glu Glu Tyr Met Arg Val Ile  
 20 25 30  
 Ser Gln Arg Tyr Pro Asp Ile Arg Ile Glu Gly Glu Asn Tyr Leu  
 35 40 45  
 Pro Gln Pro Ile Tyr Arg His Ile Ala Ser Phe Leu Ser Val Phe  
 50 55 60  
 Lys Leu Val Leu Ile Gly Leu Ile Ile Val Gly Lys Asp Pro Phe  
 65 70 75  
 Ala Phe Phe Gly Met Gln Ala Pro Ser Ile Trp Gln Trp Gly Gln  
 80 85 90  
 Glu Asn Lys Val Tyr Ala Cys Met Met Val Phe Phe Leu Ser Asn  
 95 100 105  
 Met Ile Glu Asn Gln Cys Met Ser Thr Gly Ala Phe Glu Ile Thr  
 110 115 120  
 Leu Asn Asp Val Pro Val Trp Ser Lys Leu Glu Ser Gly His Leu  
 125 130 135

Pro Ser Met Gln Gln Leu Val Gln Ile Leu Asp Asn Glu Met Lys  
 140 145 150

Leu Asn Val His Met Asp Ser Ile Pro His His Arg Ser  
 155 160

<210> 15  
 <211> 3002  
 <212> DNA  
 <213> Homo sapien

<400> 15  
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 tgactaacac catgcctatc tgtggagaag ctggcaacat gtcacacctg 100  
 gaaattgttt ttcaacatta atactattat ttggcagtaa tccagattgc 150  
 ttttgccacc aacctgaaga catatagagg cagaaggaca ggaataattc 200  
 tatttgtttc ctgttttgaa acttccatct gtaaggctat caaaaggaga 250  
 tgtgagagag ggtattgagt ctggcctgac aatgcagttc ttaaaccaaa 300  
 ggtccattat gcttctctc tctgagaatc ctgacttacc tcaacaacgg 350  
 agacatggca cagtagccag cttggagact tctcagccaa tgctctgaga 400  
 tcaagtcgaa gacccaatat acagggtttt gagctcatct tcatcattca 450  
 tatgaggaaa taagtggtaa aatccttgga aatacaatga gactcatcag 500  
 aaacatttac atattttgta gtattgttat gacagcagag ggtgatgctc 550  
 cagagctgcc agaagaaagg gaactgatga ccaactgctc caacatgtct 600  
 ctaagaaagg ttcccgaga cttgacccca gccacaacga cactggattt 650  
 atcctataac ctcctttttc aactccagag ttcagatttt cattctgtct 700  
 ccaaactgag agttttgatt ctatgccata acagaattca acagctggat 750  
 ctcaaaacct ttgaattcaa caaggagtta agatatttag atttgtctaa 800  
 taacagactg aagagtgtaa cttggtatct actggcaggt ctgaggtatt 850  
 tagatctttc ttttaatgac tttgacacca tgcctatctg tgaggaagct 900  
 ggcaacatgt cacacctgga aatcctaggt ttgagtgggg caaaaataca 950  
 aaaatcagat ttccagaaaa ttgctcatct gcatctaaat actgtcttct 1000  
 taggattcag aactcttctt cattatgaag aaggtagcct gccatctta 1050  
 aacacaacaa aactgcacat tgttttacca atggacacaa atttctgggt 1100  
 tcttttgcgt gatggaatca agacttcaaa aatattagaa atgacaaata 1150

tagatggcaa aagccaattt gtaagttatg aaatgcaacg aaatcttagt 1200  
ttagaaaatg ctaagacatc ggttctattg cttataaag ttgatttact 1250  
ctgggacgac cttttcctta tcttacaatt tgtttggcat acatcagtgg 1300  
aacactttca gatccgaaat gtgacttttg gtggtaaggc ttatcttgac 1350  
cacaattcat ttgactactc aaatactgta atgagaacta taaaattgga 1400  
gcatgtacat ttcagagtgt ttacattca acaggataaa atctatttgc 1450  
ttttgaccaa aatggacata gaaaacctga caatatcaaa tgcacaaatg 1500  
ccacacatgc ttttcccgaa ttatcctacg aaattccaat atttaaattt 1550  
tgccaataat atcttaacag acgagttggt taaaagaact atccaactgc 1600  
ctcacttgaa aactctcatt ttgaatggca ataaactgga gacactttct 1650  
ttagtaagtt gctttgctaa caacacaccc ttggaacact tggatctgag 1700  
tcaaaatcta ttacaacata aaaatgatga aaattgctca tggccagaaa 1750  
ctgtggtcaa tatgaatctg tcatacaata aattgtctga ttctgtcttc 1800  
aggtgcttgc ccaaagtat tcaaatactt gacctaaata ataaccaaatt 1850  
ccaaactgta cctaaagaga ctattcatct gatggcctta cgagaactaa 1900  
atattgcatt taattttcta actgatctcc ctggatgcag tcatttcagt 1950  
agactttcag ttctgaacat tgaaatgaac ttcattctca gcccatctct 2000  
ggattttggt cagagctgcc aggaagttaa aactctaaat gcggaagaa 2050  
atccattccg gtgtacctgt gaattaaaaa atttcattca gcttgaaaca 2100  
tattcagagg tcatgatggt tggatggtca gattcataca cctgtgaata 2150  
ccctttaaac ctaaggggaa ttaggttaaa agacgttcat ctccacgaat 2200  
tatcttgcaa cacagctctg ttgattgtca ccattgtggt tattatgcta 2250  
gttctgggggt tggctgtggc cttctgctgt ctccactttg atctgccctg 2300  
gtatctcagg atgctaggtc aatgcacaca aacatggcac agggttagga 2350  
aaacaacca agaacaactc aagagaaatg tccgattcca cgcatttatt 2400  
tcatacagtg aacatgattc tctgtgggtg aagaatgaat tgatcccaa 2450  
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gtgccattat gaattttact ttgcccacca caatctcttc catgaaaatt 2650  
ctgatcatat aattcttata ttactggaac ccattccatt ctattgcatt 2700  
cccaccaggt atcataaaact gaaagctctc ctggaaaaaa aagcatactt 2750  
ggaatggccc aaggataggc gtaaatgtgg gcttttctgg gcaaaccctt 2800  
gagctgctat taatgttaat gtattagcca ccagagaaat gtatgaactg 2850  
cagacattca cagagttaaa tgaagagtct cgagggttcta caatctctct 2900  
gatgagaaca gattgtctat aaaatccac agtccttggg aagttgggga 2950  
ccacatacac tgttgggatg tacattgata caacctttat gatggcaatt 3000  
tg 3002

<210> 16  
<211> 811  
<212> PRT  
<213> Homo sapien

<400> 16  
Met Arg Leu Ile Arg Asn Ile Tyr Ile Phe Cys Ser Ile Val Met  
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Thr Ala Glu Gly Asp Ala Pro Glu Leu Pro Glu Glu Arg Glu Leu  
20 25 30  
Met Thr Asn Cys Ser Asn Met Ser Leu Arg Lys Val Pro Ala Asp  
35 40 45  
Leu Thr Pro Ala Thr Thr Thr Leu Asp Leu Ser Tyr Asn Leu Leu  
50 55 60  
Phe Gln Leu Gln Ser Ser Asp Phe His Ser Val Ser Lys Leu Arg  
65 70 75  
Val Leu Ile Leu Cys His Asn Arg Ile Gln Gln Leu Asp Leu Lys  
80 85 90  
Thr Phe Glu Phe Asn Lys Glu Leu Arg Tyr Leu Asp Leu Ser Asn  
95 100 105  
Asn Arg Leu Lys Ser Val Thr Trp Tyr Leu Leu Ala Gly Leu Arg  
110 115 120  
Tyr Leu Asp Leu Ser Phe Asn Asp Phe Asp Thr Met Pro Ile Cys  
125 130 135  
Glu Glu Ala Gly Asn Met Ser His Leu Glu Ile Leu Gly Leu Ser  
140 145 150  
Gly Ala Lys Ile Gln Lys Ser Asp Phe Gln Lys Ile Ala His Leu  
155 160 165  
His Leu Asn Thr Val Phe Leu Gly Phe Arg Thr Leu Pro His Tyr

	170		175		180
Glu Glu Gly Ser	Leu Pro Ile Leu Asn Thr Thr Lys Leu His Ile				
	185		190		195
Val Leu Pro Met	Asp Thr Asn Phe Trp Val Leu Leu Arg Asp Gly				
	200		205		210
Ile Lys Thr Ser	Lys Ile Leu Glu Met Thr Asn Ile Asp Gly Lys				
	215		220		225
Ser Gln Phe Val	Ser Tyr Glu Met Gln Arg Asn Leu Ser Leu Glu				
	230		235		240
Asn Ala Lys Thr	Ser Val Leu Leu Leu Asn Lys Val Asp Leu Leu				
	245		250		255
Trp Asp Asp Leu	Phe Leu Ile Leu Gln Phe Val Trp His Thr Ser				
	260		265		270
Val Glu His Phe	Gln Ile Arg Asn Val Thr Phe Gly Gly Lys Ala				
	275		280		285
Tyr Leu Asp His	Asn Ser Phe Asp Tyr Ser Asn Thr Val Met Arg				
	290		295		300
Thr Ile Lys Leu	Glu His Val His Phe Arg Val Phe Tyr Ile Gln				
	305		310		315
Gln Asp Lys Ile	Tyr Leu Leu Leu Thr Lys Met Asp Ile Glu Asn				
	320		325		330
Leu Thr Ile Ser	Asn Ala Gln Met Pro His Met Leu Phe Pro Asn				
	335		340		345
Tyr Pro Thr Lys	Phe Gln Tyr Leu Asn Phe Ala Asn Asn Ile Leu				
	350		355		360
Thr Asp Glu Leu	Phe Lys Arg Thr Ile Gln Leu Pro His Leu Lys				
	365		370		375
Thr Leu Ile Leu	Asn Gly Asn Lys Leu Glu Thr Leu Ser Leu Val				
	380		385		390
Ser Cys Phe Ala	Asn Asn Thr Pro Leu Glu His Leu Asp Leu Ser				
	395		400		405
Gln Asn Leu Leu	Gln His Lys Asn Asp Glu Asn Cys Ser Trp Pro				
	410		415		420
Glu Thr Val Val	Asn Met Asn Leu Ser Tyr Asn Lys Leu Ser Asp				
	425		430		435
Ser Val Phe Arg	Cys Leu Pro Lys Ser Ile Gln Ile Leu Asp Leu				
	440		445		450
Asn Asn Asn Gln	Ile Gln Thr Val Pro Lys Glu Thr Ile His Leu				
	455		460		465

Met	Ala	Leu	Arg	Glu	Leu	Asn	Ile	Ala	Phe	Asn	Phe	Leu	Thr	Asp		470	475	480
Leu	Pro	Gly	Cys	Ser	His	Phe	Ser	Arg	Leu	Ser	Val	Leu	Asn	Ile		485	490	495
Glu	Met	Asn	Phe	Ile	Leu	Ser	Pro	Ser	Leu	Asp	Phe	Val	Gln	Ser		500	505	510
Cys	Gln	Glu	Val	Lys	Thr	Leu	Asn	Ala	Gly	Arg	Asn	Pro	Phe	Arg		515	520	525
Cys	Thr	Cys	Glu	Leu	Lys	Asn	Phe	Ile	Gln	Leu	Glu	Thr	Tyr	Ser		530	535	540
Glu	Val	Met	Met	Val	Gly	Trp	Ser	Asp	Ser	Tyr	Thr	Cys	Glu	Tyr		545	550	555
Pro	Leu	Asn	Leu	Arg	Gly	Ile	Arg	Leu	Lys	Asp	Val	His	Leu	His		560	565	570
Glu	Leu	Ser	Cys	Asn	Thr	Ala	Leu	Leu	Ile	Val	Thr	Ile	Val	Val		575	580	585
Ile	Met	Leu	Val	Leu	Gly	Leu	Ala	Val	Ala	Phe	Cys	Cys	Leu	His		590	595	600
Phe	Asp	Leu	Pro	Trp	Tyr	Leu	Arg	Met	Leu	Gly	Gln	Cys	Thr	Gln		605	610	615
Thr	Trp	His	Arg	Val	Arg	Lys	Thr	Thr	Gln	Glu	Gln	Leu	Lys	Arg		620	625	630
Asn	Val	Arg	Phe	His	Ala	Phe	Ile	Ser	Tyr	Ser	Glu	His	Asp	Ser		635	640	645
Leu	Trp	Val	Lys	Asn	Glu	Leu	Ile	Pro	Asn	Leu	Glu	Lys	Glu	Asp		650	655	660
Gly	Ser	Ile	Leu	Ile	Cys	Leu	Tyr	Glu	Ser	Tyr	Phe	Asp	Pro	Gly		665	670	675
Lys	Ser	Ile	Ser	Glu	Asn	Ile	Val	Ser	Phe	Ile	Glu	Lys	Ser	Tyr		680	685	690
Lys	Ser	Ile	Phe	Val	Leu	Ser	Pro	Asn	Phe	Val	Gln	Asn	Glu	Trp		695	700	705
Cys	His	Tyr	Glu	Phe	Tyr	Phe	Ala	His	His	Asn	Leu	Phe	His	Glu		710	715	720
Asn	Ser	Asp	His	Ile	Ile	Leu	Ile	Leu	Leu	Glu	Pro	Ile	Pro	Phe		725	730	735
Tyr	Cys	Ile	Pro	Thr	Arg	Tyr	His	Lys	Leu	Lys	Ala	Leu	Leu	Glu		740	745	750
Lys	Lys	Ala	Tyr	Leu	Glu	Trp	Pro	Lys	Asp	Arg	Arg	Lys	Cys	Gly				

	755		760		765
Leu Phe Trp Ala Asn Leu Arg Ala Ala Ile Asn Val Asn Val Leu					
	770		775		780
Ala Thr Arg Glu Met Tyr Glu Leu Gln Thr Phe Thr Glu Leu Asn					
	785		790		795
Glu Glu Ser Arg Gly Ser Thr Ile Ser Leu Met Arg Thr Asp Cys					
	800		805		810
Leu					

<210> 17  
 <211> 1911  
 <212> DNA  
 <213> Homo sapien

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 tcaggaaggt gtggagctgg agaagagcgt ccggcgctc cgggagaagt 150  
 ttcattggaa ggtatcctcc aagaaggcgg gggctctgat gaggaaattc 200  
 ggcagcgacc acacgggagt ggggcgctcc atcgtgtacg gggtaaagca 250  
 aaaagatggc caagaactaa gtaacgatct ggatgcccag gatccaccag 300  
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 ccactgacag aagccaacct acgcatgttt caacgtgccc aggacgacct 400  
 tatccctgct gtggaccggc agtttgctg ctccctcctgc gaccacgtct 450  
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 cacctgcttg agccaggtg gcctcctgga agacctggac aacctcatcc 900  
 tggaggacct gaaggaggag gaggaggaag aggaggaggt ggaggacgag 950



gagggcgggc ccagggagtg acccctgcc a ggtgcagata caaaccagac 1000  
acgggtctgtg gctactttgt gttattataa gatatgagct caaaccgaga 1050  
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acttgggctc ctgctgacca atgtcctcta gggcctaggg gacagaggaa 1250  
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gaatatgccc caccacgaaa ctgagcccag tagacaccat cctggtagcg 1350  
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cacaggcatg gtaccaccag cctccccgct ggtacagggc acagttacct 1450  
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tgcacctcac agtgcaaggc ttttgccagg catcccctgg cccctcccat 1550  
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atctccttac caaagtacaa gtcacatctt tcccaccttt tctgcaaact 1700  
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tagaataaga gtactagctc tcaccctctg ccctttactt gaacaggagt 1800  
cttgattctt tttttgcctc atcagagaag gaatctggac tcccatccc 1850  
cccaccagga taaaagtcct gacctttggt ctcttgacgg aataaaagct 1900  
tgcttatcct t 1911

<210> 18  
<211> 291  
<212> PRT  
<213> Homo sapien

<400> 18  
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Arg Glu Lys Phe His Gly Lys Val Ser Ser Lys Lys Ala Gly Ala  
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Leu Met Arg Lys Phe Gly Ser Asp His Thr Gly Val Gly Arg Ser  
35 40 45  
Ile Val Tyr Gly Val Lys Gln Lys Asp Gly Gln Glu Leu Ser Asn  
50 55 60

Asp	Leu	Asp	Ala	Gln	Asp	Pro	Pro	Glu	Asp	Met	Lys	Gln	Asp	Arg	
				65					70					75	
Asp	Ile	Gln	Ala	Val	Ala	Thr	Ser	Leu	Leu	Pro	Leu	Thr	Glu	Ala	
				80					85					90	
Asn	Leu	Arg	Met	Phe	Gln	Arg	Ala	Gln	Asp	Asp	Leu	Ile	Pro	Ala	
				95					100					105	
Val	Asp	Arg	Gln	Phe	Ala	Cys	Ser	Ser	Cys	Asp	His	Val	Trp	Trp	
				110					115					120	
Arg	Arg	Val	Pro	Gln	Arg	Lys	Glu	Val	Ser	Arg	Cys	Arg	Lys	Cys	
				125					130					135	
Arg	Lys	Arg	Tyr	Glu	Pro	Val	Pro	Ala	Asp	Lys	Met	Trp	Gly	Leu	
				140					145					150	
Ala	Glu	Phe	His	Cys	Pro	Lys	Cys	Arg	His	Asn	Phe	Arg	Gly	Trp	
				155					160					165	
Ala	Gln	Met	Gly	Ser	Pro	Ser	Pro	Cys	Tyr	Gly	Cys	Gly	Phe	Pro	
				170					175					180	
Val	Tyr	Pro	Thr	Arg	Ile	Leu	Pro	Pro	Arg	Arg	Asp	Arg	Asp	Pro	
				185					190					195	
Asp	Arg	Arg	Ser	Thr	His	Thr	His	Ser	Cys	Ser	Ala	Ala	Asp	Cys	
				200					205					210	
Tyr	Asn	Arg	Arg	Glu	Pro	His	Val	Pro	Gly	Thr	Ser	Cys	Ala	His	
				215					220					225	
Pro	Lys	Ser	Arg	Lys	Gln	Asn	His	Leu	Pro	Lys	Val	Leu	His	Pro	
				230					235					240	
Ser	Asn	Pro	His	Ile	Ser	Ser	Gly	Pro	Thr	Val	Ala	Thr	Cys	Leu	
				245					250					255	
Ser	Gln	Gly	Gly	Leu	Leu	Glu	Asp	Leu	Asp	Asn	Leu	Ile	Leu	Glu	
				260					265					270	
Asp	Leu	Lys	Glu	Glu	Glu	Glu	Glu	Glu	Glu	Glu	Val	Glu	Asp	Glu	
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Glu	Gly	Gly	Pro	Arg	Glu										
				290											

<210> 19

<211> 1603

<212> DNA

<213> Homo sapien

<400> 19

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gggctcctac ttggttcgga ggtcccgcgc gcctcaggtc actctcctgg 150  
 accccaatga aaagtacctg ctacgactgc tagacaagac gactgtgagc 200  
 cacaacacca agaggttccg ctttgccttg cccaccgccc accacactct 250  
 ggggctgcct gtgggcaaac atatctacct ctccaccga attgatggca 300  
 acctggtcat caggccatac actcctgtca ccagtgatga ggatcaaggc 350  
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 tcttgagggg ggaagatgt ctacgtacct ggatagcctg aaggttgggc 450  
 atgtgggtga gtttcggggg ccaagcgggt tgctcactta cactggaaaa 500  
 gggcatttta acattcagcc caacaagaaa tctccaccag aaccccgagt 550  
 ggcgaagaaa ctgggaatga ttgccggcgc gacaggaatc accccaatgc 600  
 tacagctgat ccgggccatc ctgaaagtcc ctgaagatcc aaccagtg 650  
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 gccatggaag aggcccaagg ctacgtcact ccttggatgg cctcctaaat 1150  
 ctccccgtgg caacagggtc aggagaggcc catggagcag tctcttccat 1200  
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 gtctgtgcaa tgggttttac ttaaacttca ctgttcaacc tatgagcaaa 1350  
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aaa 1603

<210> 20

<211> 305

<212> PRT

<213> Homo sapien

<400> 20

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Gly	Leu	Val	Thr	Leu	Leu	Gly	Leu	Ala	Val	Gly	Ser	Tyr	Leu	Val	
			20						25					30	
Arg	Arg	Ser	Arg	Arg	Pro	Gln	Val	Thr	Leu	Leu	Asp	Pro	Asn	Glu	
				35					40					45	
Lys	Tyr	Leu	Leu	Arg	Leu	Leu	Asp	Lys	Thr	Thr	Val	Ser	His	Asn	
				50					55					60	
Thr	Lys	Arg	Phe	Arg	Phe	Ala	Leu	Pro	Thr	Ala	His	His	Thr	Leu	
				65					70					75	
Gly	Leu	Pro	Val	Gly	Lys	His	Ile	Tyr	Leu	Ser	Thr	Arg	Ile	Asp	
				80					85					90	
Gly	Asn	Leu	Val	Ile	Arg	Pro	Tyr	Thr	Pro	Val	Thr	Ser	Asp	Glu	
				95					100					105	
Asp	Gln	Gly	Tyr	Val	Asp	Leu	Val	Ile	Lys	Val	Tyr	Leu	Lys	Gly	
				110					115					120	
Val	His	Pro	Lys	Phe	Pro	Glu	Gly	Gly	Lys	Met	Ser	Gln	Tyr	Leu	
				125					130					135	
Asp	Ser	Leu	Lys	Val	Gly	His	Val	Val	Glu	Phe	Arg	Gly	Pro	Ser	
				140					145					150	
Gly	Leu	Leu	Thr	Tyr	Thr	Gly	Lys	Gly	His	Phe	Asn	Ile	Gln	Pro	
				155					160					165	
Asn	Lys	Lys	Ser	Pro	Pro	Glu	Pro	Arg	Val	Ala	Lys	Lys	Leu	Gly	
				170					175					180	
Met	Ile	Ala	Gly	Gly	Thr	Gly	Ile	Thr	Pro	Met	Leu	Gln	Leu	Ile	
				185					190					195	
Arg	Ala	Ile	Leu	Lys	Val	Pro	Glu	Asp	Pro	Thr	Gln	Cys	Phe	Leu	
				200					205					210	
Leu	Phe	Ala	Asn	Gln	Thr	Glu	Lys	Asp	Ile	Ile	Leu	Arg	Glu	Asp	
				215					220					225	
Leu	Glu	Glu	Leu	Gln	Ala	Arg	Tyr	Pro	Asn	Arg	Phe	Lys	Leu	Trp	
				230					235					240	

Phe	Thr	Leu	Asp	His	Pro	Pro	Lys	Asp	Trp	Ala	Tyr	Ser	Lys	Gly
				245					250					255
Phe	Val	Thr	Ala	Asp	Met	Ile	Arg	Glu	His	Leu	Pro	Ala	Pro	Gly
				260					265					270
Asp	Asp	Val	Leu	Val	Leu	Leu	Cys	Gly	Pro	Pro	Pro	Met	Val	Gln
				275					280					285
Leu	Ala	Cys	His	Pro	Asn	Leu	Asp	Lys	Leu	Gly	Tyr	Ser	Gln	Lys
				290					295					300
Met	Arg	Phe	Thr	Tyr										
				305										

<210> 21  
 <211> 2728  
 <212> DNA  
 <213> Homo sapien

<400> 21  
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 tgaacgggat tctgggggag tcagtaactc ttcccctgga gtttcctgca 150  
 ggagagaagg tcaacttcat cacttggtt ttcaatgaaa catctcttgc 200  
 cttcatagta ccccatgaaa ccaaaagtcc agaaatccac gtgactaatc 250  
 cgaaacaggg aaagcgactg aacttcaccc agtcctactc cctgcaactc 300  
 agcaacctga agatggaaga cacaggctct tacagagccc agatatccac 350  
 aaagacctct gcaaagctgt ccagttacac tctgaggata ttaagacaac 400  
 tgaggaacat acaagttacc aatcacagtc agctatttca gaatatgacc 450  
 tgtgagctcc atctgacttg ctctgtggag gatgcagatg acaatgtctc 500  
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 ctgtctctctg ggaccccagg atttccagtg aacaggacta cacctgcata 600  
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 gctaaagata acacaccagc acattgactc tctctttgat aactaagcaa 1300  
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 gaaatccagt ttccatggcc ctggatggtc tggccacct ccagcctcag 2150  
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 catgccaatg tattccagtc tgggtgacag agtgagactc tgtctcaaaa 2650  
 aataaataaa taaaataaaa tgaaatagat cttataaaaa aaaaaaaaaa 2700  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaa 2728

<210> 22  
 <211> 331  
 <212> PRT  
 <213> Homo sapien

<400> 22  
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 Asn Gly Ile Leu Gly Glu Ser Val Thr Leu Pro Leu Glu Phe Pro  
 35 40 45  
 Ala Gly Glu Lys Val Asn Phe Ile Thr Trp Leu Phe Asn Glu Thr  
 50 55 60  
 Ser Leu Ala Phe Ile Val Pro His Glu Thr Lys Ser Pro Glu Ile  
 65 70 75  
 His Val Thr Asn Pro Lys Gln Gly Lys Arg Leu Asn Phe Thr Gln  
 80 85 90  
 Ser Tyr Ser Leu Gln Leu Ser Asn Leu Lys Met Glu Asp Thr Gly  
 95 100 105  
 Ser Tyr Arg Ala Gln Ile Ser Thr Lys Thr Ser Ala Lys Leu Ser  
 110 115 120  
 Ser Tyr Thr Leu Arg Ile Leu Arg Gln Leu Arg Asn Ile Gln Val  
 125 130 135  
 Thr Asn His Ser Gln Leu Phe Gln Asn Met Thr Cys Glu Leu His  
 140 145 150  
 Leu Thr Cys Ser Val Glu Asp Ala Asp Asp Asn Val Ser Phe Arg  
 155 160 165  
 Trp Glu Ala Leu Gly Asn Thr Leu Ser Ser Gln Pro Asn Leu Thr  
 170 175 180  
 Val Ser Trp Asp Pro Arg Ile Ser Ser Glu Gln Asp Tyr Thr Cys  
 185 190 195

Ile	Ala	Glu	Asn	Ala	Val	Ser	Asn	Leu	Ser	Phe	Ser	Val	Ser	Ala
				200					205					210
Gln	Lys	Leu	Cys	Glu	Asp	Val	Lys	Ile	Gln	Tyr	Thr	Asp	Thr	Lys
				215					220					225
Met	Ile	Leu	Phe	Met	Val	Ser	Gly	Ile	Cys	Ile	Val	Phe	Gly	Phe
				230					235					240
Ile	Ile	Leu	Leu	Leu	Leu	Val	Leu	Arg	Lys	Arg	Arg	Asp	Ser	Leu
				245					250					255
Ser	Leu	Ser	Thr	Gln	Arg	Thr	Gln	Gly	Pro	Glu	Ser	Ala	Arg	Asn
				260					265					270
Leu	Glu	Tyr	Val	Ser	Val	Ser	Pro	Thr	Asn	Asn	Thr	Val	Tyr	Ala
				275					280					285
Ser	Val	Thr	His	Ser	Asn	Arg	Glu	Thr	Glu	Ile	Trp	Thr	Pro	Arg
				290					295					300
Glu	Asn	Asp	Thr	Ile	Thr	Ile	Tyr	Ser	Thr	Ile	Asn	His	Ser	Lys
				305					310					315
Glu	Ser	Lys	Pro	Thr	Phe	Ser	Arg	Ala	Thr	Ala	Leu	Asp	Asn	Val
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Val

<210> 23  
 <211> 4796  
 <212> DNA  
 <213> Homo sapien

<400> 23  
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 ccagcgctg tccctgtcac ggaccccagc gttaccatgc atcctgccgt 150  
 cttcctatcc ttacccgacc tcagatgctc ccttctgctc ctggtaactt 200  
 gggtttttac tcctgtaaca actgaaataa caagtcttga tacagagaat 250  
 atagatgaaa ttttaaacia tgctgatgtt gctttagtaa atttttatgc 300  
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 ccgatgtcat taaggaagaa tttccaaatg aaaatcaagt agtgtttgcc 400  
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 caaataccca accctcaaat tgtttcgtaa tgggatgatg atgaagagag 500  
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<210> 24  
<211> 451  
<212> PRT  
<213> Homo sapien

<400> 24

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Ser	Gln	Pro	Pro	Ala	Pro	Val	Pro	Val	Thr	Asp	Pro	Ser	Val	Thr	
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Met	His	Pro	Ala	Val	Phe	Leu	Ser	Leu	Pro	Asp	Leu	Arg	Cys	Ser	
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Leu	Leu	Leu	Leu	Val	Thr	Trp	Val	Phe	Thr	Pro	Val	Thr	Thr	Glu	
				65					70					75	
Ile	Thr	Ser	Leu	Asp	Thr	Glu	Asn	Ile	Asp	Glu	Ile	Leu	Asn	Asn	
				80					85					90	
Ala	Asp	Val	Ala	Leu	Val	Asn	Phe	Tyr	Ala	Asp	Trp	Cys	Arg	Phe	
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Ser	Gln	Met	Leu	His	Pro	Ile	Phe	Glu	Glu	Ala	Ser	Asp	Val	Ile	
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Lys	Glu	Glu	Phe	Pro	Asn	Glu	Asn	Gln	Val	Val	Phe	Ala	Arg	Val	
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Asp	Cys	Asp	Gln	His	Ser	Asp	Ile	Ala	Gln	Arg	Tyr	Arg	Ile	Ser	
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Lys	Tyr	Pro	Thr	Leu	Lys	Leu	Phe	Arg	Asn	Gly	Met	Met	Met	Lys	
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Arg	Glu	Tyr	Arg	Gly	Gln	Arg	Ser	Val	Lys	Ala	Leu	Ala	Asp	Tyr	
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Ile	Arg	Gln	Gln	Lys	Ser	Asp	Pro	Ile	Gln	Glu	Ile	Arg	Asp	Leu	
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Ala	Glu	Ile	Thr	Thr	Leu	Asp	Arg	Ser	Lys	Arg	Asn	Ile	Ile	Gly	
				200					205					210	
Tyr	Phe	Glu	Gln	Lys	Asp	Ser	Asp	Asn	Tyr	Arg	Val	Phe	Glu	Arg	
				215					220					225	
Val	Ala	Asn	Ile	Leu	His	Asp	Asp	Cys	Ala	Phe	Leu	Ser	Ala	Phe	
				230					235					240	
Gly	Asp	Val	Ser	Lys	Pro	Glu	Arg	Tyr	Ser	Gly	Asp	Asn	Ile	Ile	
				245					250					255	
Tyr	Lys	Pro	Pro	Gly	His	Ser	Ala	Pro	Asp	Met	Val	Tyr	Leu	Gly	
				260					265					270	
Ala	Met	Thr	Asn	Phe	Asp	Val	Thr	Tyr	Asn	Trp	Ile	Gln	Asp	Lys	
				275					280					285	

Cys	Val	Pro	Leu	Val	Arg	Glu	Ile	Thr	Phe	Glu	Asn	Gly	Glu	Glu	290	295	300
Leu	Thr	Glu	Glu	Gly	Leu	Pro	Phe	Leu	Ile	Leu	Phe	His	Met	Lys	305	310	315
Glu	Asp	Thr	Glu	Ser	Leu	Glu	Ile	Phe	Gln	Asn	Glu	Val	Ala	Arg	320	325	330
Gln	Leu	Ile	Ser	Glu	Lys	Gly	Thr	Ile	Asn	Phe	Leu	His	Ala	Asp	335	340	345
Cys	Asp	Lys	Phe	Arg	His	Pro	Leu	Leu	His	Ile	Gln	Lys	Thr	Pro	350	355	360
Ala	Asp	Cys	Pro	Val	Ile	Ala	Ile	Asp	Ser	Phe	Arg	His	Met	Tyr	365	370	375
Val	Phe	Gly	Asp	Phe	Lys	Asp	Val	Leu	Ile	Pro	Gly	Lys	Leu	Lys	380	385	390
Gln	Phe	Val	Phe	Asp	Leu	His	Ser	Gly	Lys	Leu	His	Arg	Glu	Phe	395	400	405
His	His	Gly	Pro	Asp	Pro	Thr	Asp	Thr	Ala	Pro	Gly	Glu	Gln	Ala	410	415	420
Gln	Asp	Val	Ala	Ser	Ser	Pro	Pro	Glu	Ser	Ser	Phe	Gln	Lys	Leu	425	430	435
Ala	Pro	Ser	Glu	Tyr	Arg	Tyr	Thr	Leu	Leu	Arg	Asp	Arg	Asp	Glu	440	445	450

Leu

<210> 25  
 <211> 810  
 <212> DNA  
 <213> Homo sapien

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<210> 26  
<211> 221  
<212> PRT  
<213> Homo sapien

<400> 26  
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35 40 45  
Asn Thr His His Arg Val Arg Leu His Ser His Asp Ile Lys Tyr  
50 55 60  
Gly Ser Gly Ser Gly Gln Gln Ser Val Thr Gly Val Glu Ala Ser  
65 70 75  
Asp Asp Ala Asn Ser Tyr Trp Arg Ile Arg Gly Gly Ser Glu Gly  
80 85 90  
Gly Cys Pro Cys Gly Ser Pro Val Arg Cys Gly Gln Ala Val Arg  
95 100 105  
Leu Thr His Val Leu Thr Gly Lys Asn Leu His Thr His His Phe  
110 115 120  
Pro Ser Pro Leu Ser Asn Asn Gln Glu Val Ser Ala Phe Gly Glu  
125 130 135  
Asp Gly Glu Gly Asp Asp Leu Asp Leu Trp Thr Val Arg Cys Ser  
140 145 150  
Gly Gln His Trp Glu Arg Glu Ala Ala Val Arg Leu Gln His Val  
155 160 165  
Gly Thr Ser Val Phe Leu Ser Val Thr Gly Glu Gln Tyr Gly Ser

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Pro Ile Arg Gly Gln His Glu Val His Gly Met Pro Ser Ala Asn					
	185		190		195
Thr His Asn Thr Trp Lys Ala Met Glu Gly Ile Phe Ile Lys Pro					
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Ser Val Glu Pro Ser Ala Gly His Asp Glu Leu					
	215		220		

<210> 27  
 <211> 1256  
 <212> DNA  
 <213> Homo sapien

<400> 27  
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<210> 28  
 <211> 321  
 <212> PRT  
 <213> Homo sapien

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 Cys His Arg Cys Arg Gly Leu Val Asp Lys Phe Asn Gln Gly Met  
                     35                    40                    45  
 Val Asp Thr Ala Lys Lys Asn Phe Gly Gly Gly Asn Thr Ala Trp  
                     50                    55                    60  
 Glu Glu Lys Thr Leu Ser Lys Tyr Glu Ser Ser Glu Ile Arg Leu  
                     65                    70                    75  
 Leu Glu Ile Leu Glu Gly Leu Cys Glu Ser Ser Asp Phe Glu Cys  
                     80                    85                    90  
 Asn Gln Met Leu Glu Ala Gln Glu Glu His Leu Glu Ala Trp Trp  
                     95                    100                    105  
 Leu Gln Leu Lys Ser Glu Tyr Pro Asp Leu Phe Glu Trp Phe Cys  
                     110                    115                    120  
 Val Lys Thr Leu Lys Val Cys Cys Ser Pro Gly Thr Tyr Gly Pro  
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 Asp Cys Leu Ala Cys Gln Gly Gly Ser Gln Arg Pro Cys Ser Gly  
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 Asn Gly His Cys Ser Gly Asp Gly Ser Arg Gln Gly Asp Gly Ser  
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 Cys Arg Cys His Met Gly Tyr Gln Gly Pro Leu Cys Thr Asp Cys  
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 Met Asp Gly Tyr Phe Ser Ser Leu Arg Asn Glu Thr His Ser Ile  
                     185                    190                    195  
 Cys Thr Ala Cys Asp Glu Ser Cys Lys Thr Cys Ser Gly Leu Thr  
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Asn	Arg	Asp	Cys	Gly	Glu	Cys	Glu	Val	Gly	Trp	Val	Leu	Asp	Glu	215	220	225
Gly	Ala	Cys	Val	Asp	Val	Asp	Glu	Cys	Ala	Ala	Glu	Pro	Pro	Pro	230	235	240
Cys	Ser	Ala	Ala	Gln	Phe	Cys	Lys	Asn	Ala	Asn	Gly	Ser	Tyr	Thr	245	250	255
Cys	Glu	Asp	Val	Asp	Glu	Cys	Ser	Leu	Ala	Glu	Lys	Thr	Cys	Val	260	265	270
Arg	Lys	Asn	Glu	Asn	Cys	Tyr	Asn	Thr	Pro	Gly	Ser	Tyr	Val	Cys	275	280	285
Val	Cys	Pro	Asp	Gly	Phe	Glu	Glu	Thr	Glu	Asp	Ala	Cys	Val	Pro	290	295	300
Pro	Ala	Glu	Ala	Glu	Ala	Thr	Glu	Gly	Glu	Ser	Pro	Thr	Gln	Leu	305	310	315
Pro	Ser	Arg	Glu	Asp	Leu										320		